



**DB ELECTRO**<sup>INC</sup>  
COMPOSANTS ÉLECTRONIQUES  
ELECTRONIC COMPONENTS

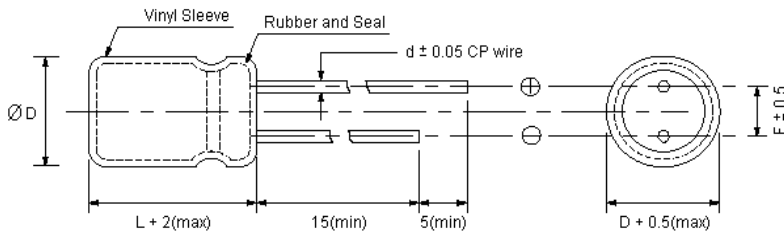
## RoHS Compliant ALUMINIUM ELECTROLYTIC CAPACITOR

## HL Series

### FEATURES

- ◆ Load life of 5000 hours at 105°C
- ◆ Safety vent construction design
- ◆ For electronic ballast circuits, switching power supply, automotive and other long life required applications

### OUTLINE



mm				
D	10	13	16	18
F	5.0		7.5	
d	0.6		0.8	

### SPECIFICATIONS

Items	Characteristics						
Capacitance Tolerance (120Hz, 25°C)	± 20% (M)						
Rated Working Voltage Range	160 ~ 400Vdc			450Vdc			
Operation Temperature	-40°C ~ +105°C			-40°C ~ +105°C			
Leakage Current (25°C)	(After 2 minutes applying the DC working voltage)						
	$I \leq 0.06CV + 10 \text{ (}\mu\text{A)}$						
	◆ I : Leakage Current (μA)		◆ C : Rated Capacitance (μF)		◆ V : Working Voltage (V)		
Surge Voltage (25°C)	W.V.	160	200	250	350	400	450
	S.V.	200	250	300	400	450	500
Dissipation Factor (120Hz, 25°C)	W.V.	160	200	250	350	400	450
	$\tan \delta$	0.15	0.15	0.15	0.20	0.24	0.24
Temperature Characteristics	W.V.	160	200	250	350	400	450
	- 25°C / + 25°C	3	3	3	5	5	6
	- 40°C / + 25°C	6	6	6	6	6	-
	◆ Impedance ratio at 120Hz						
Load Test	After 5000 hours application of WV at +105°C, the capacitor shall meet the following limits:						
	Capacitance Change	≤ ± 20% of initial value					
	$\tan \delta$	≤ 200% of initial specified value					
	Leakage Current	≤ initial specified value					
Shelf Test	After 1000 hours, no voltage applied at +105°C, the capacitor shall meet the following limits:						
	Capacitance Change	≤ ± 25% of initial value					
	$\tan \delta$	≤ 200% of initial specified value					
	Leakage Current	≤ 200% of initial specified value					

# DB LECTRO

## ■ DIMENSIONS

D x L (mm)

WV uF	160	200	250	350	400	450
3.3					]	10 x 20
4.7					]	13 x 20
10		]	10 x 20	10 x 20	10 x 20	13 x 20
22	10 x 20	10 x 20	13 x 20	13 x 20	13 x 25	16 x 26
33	10 x 20	13 x 20	13 x 20	13 x 25	16 x 26	16 x 31
47	13 x 20	13 x 20	13 x 25	16 x 26	16 x 31	18 x 31
68	13 x 25	13 x 25	16 x 26	16 x 31	18 x 35	18 x 41
100	16 x 26	16 x 26	16 x 31	18 x 31	18 x 41	
150	16 x 31	16 x 35	18 x 31			
220	16 x 31	18 x 31	18 x 41			
330	18 x 31					

RC: mA (rms) at 120Hz 105°C

**Imp: mΩ (ohm) at 100KHz 25°C**

### ■ PERMISSIBLE RIPPLE CURRENT

[illegible]